

Resource Guide for Chemistry Road Show of TAMU

Genie in a Bottle

(MnO₂/H₂O₂) Exothermic decomposition of hydrogen peroxide to give oxygen and water at high temperature (steam!!!)

Burning Book

(Magic vs. Science)

CO₂ Bubbler

Sublimation. Density of CO₂ gas. Scientific Process.

Disappearing/Reappearing Beaker

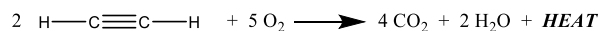
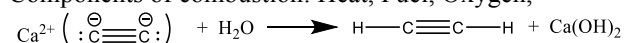
Refractive Index of Glass

Elephant Toothpaste

Decomposition of hydrogen peroxide (again) but with some creative flare.

Calcium Carbide Cannon & Self-Carving Pumpkin

Components of combustion: Heat, Fuel, Oxygen,



Silver Mirror

Tollen's Test (similar to chemistry used in some diabetes tests available commercially). Oxidation/Reduction: Silver diamine oxidation of glucose. Silver cation reduced to silver metal in zero valent state.



Everlasting Ice Cream

Polymer used for insulation, car seats, arm rests, etc.

Oscillating Reaction

This is an example of an oscillating reaction. It is a very complex series of reduction/oxidation reactions. It can help students visualize cyclic biological reactions.

Dry Ice Colorful Cylinder

Dry Ice in Water with Universal Indicator (Sublimation; Acid/Base Chemistry; Reaction of CO₂ with water to make carbonic acid which is found in soft drinks and is responsible for some of rainfalls acidity)

Collapsing Bottle

CO₂ in 2 L bottle reacts with 35 mL of 6 M NaOH, the carbonic acid from the reaction of CO₂ with water is neutralized by the base. CO₂ is drawn out of the atmosphere in the bottle, which creates a vacuum, and the bottle is crushed by atmospheric pressure.

Rainbow Magic

Acid/Base Indicators

Liquid Nitrogen Dragon, Flowers, Shrinking Balloons, Hand

The Temperature of liquid nitrogen is -196°C or -321°F . Looking at the effects of extreme low temperatures.

Luminol Skull

Chemiluminescence, creating light as a product of a chemical reaction.

Elemental Colors

Flame Test: Emission spectra of various metals

Fire Tornado

Motion of gasses, Chimney effect, hot air rises and draws in more air to feed the flame

Food Coloring, Violet

Due to time limitations, several experiment may not be done.